Natural Heritage & Endangered Species Program

MASSACHUSETTS RARE AND ENDANGERED PLANTS

Subulate Bladderwort
(Utricularia subulata L.)

trap

corolla with spur

capsule, within calyx

Description: Subulate Bladderwort is a tiny semi-aquatic plant composed of a sub-terranean system of delicate, unbranched, bladder-bearing (traps for invertebrates) stems from which thread-like, leafless flower scapes emerge 4 to18 cm (1.5-6 in.) above the substrate. Small, uncut, leaf-like branchlets may also be present, borne on the underground stems as shown in the illustration. The tiny yellow flowers, commonly 2-4 per stalk, appear from early June to late summer. They have a bilabiate (two-lipped) corolla, the upper lip smaller and rounded, the lower one large, broad and shallowly 3-lobed with a short spur pressed beneath it. More often, however, the flowers lack any well-developed petals and look simply like fruiting capsules. These cleistogamous ("hidden") flowers are fertilized without the flower ever expanding. A colony of them looks like tiny hatpins stuck in the sand or mud.

R. Godfrey & J. Wooten, Aquatic & Wetland Plants of S. E. United States. Univ. of Georgia Press. 1981.
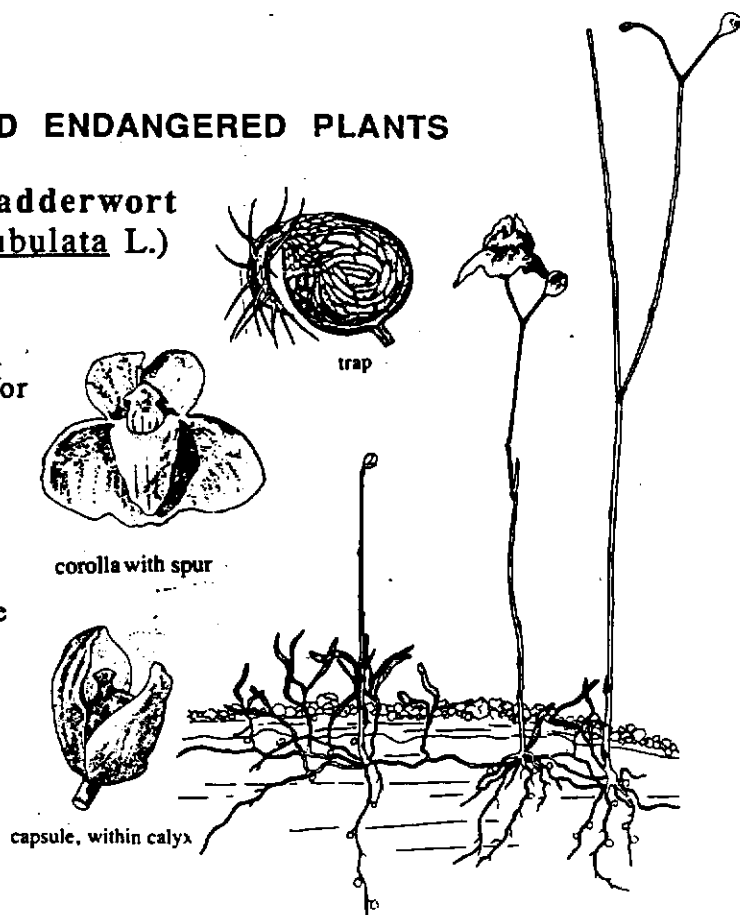
Range: Southeastern Massachusetts and southern Nova Scotia represent the northern limit of this species' range which extends south along the coastal states to Florida, westward to Texas, inland to Arkansas and Tennessee, and then skips to n. Indiana and s. Michigan. It also found throughout South America, tropical Africa, Madagascar, Thailand, and Borneo.
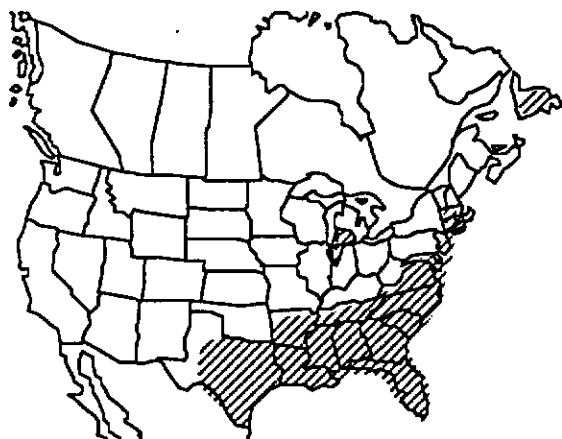
Range of Subulate Bladderwort
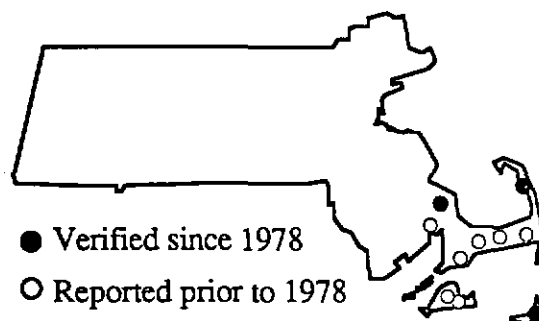
● Verified since 1978
O Reported prior to 1978

Distribution in Massachusetts by Town
1990

Similar Species: Subulate Bladderwort is similar to two other yellow-flowered bladderworts, the Fibrous Bladderwort (U. fibrosa) and the Two-flowered Bladderwort (U. biflora). Both are larger overall and have floating or creeping branches with many finely dissected leaves and scattered bladders, seperately or together, while Subulate Bladderwort has only underground bladders and few, if any, simple (undivided) leaves. Subulate Bladderwort is usually found stranded away from current water levels, whereas the other two are usually emergent at the water's edge.

Habitat in Massachusetts: This species primarily grows in wet, sandy to peaty soils on the margins of shallow Coastal Plain freshwater ponds which undergo pronounced seasonal fluctuations in water level. These permanent bodies of water were created from buried blocks of glacial ice and are found scattered throughout the glacial outwash which was deposited over much of southeastern Massachusetts. A rich community of specially adapted species, many rare and threatened, are able to thrive because the encroachment of trees and shrubs is prevented by the recurring high water levels. in these ponds. Subulate Bladderwort is also found in boggy depressions and on peaty scrapes where saturated and sunny conditions are also condusive to the growth of certain low, herbaceous species. Commonly found growing with Subulate Bladderwort are Thread-leaved sundew (Drosera filiformis), Yellow-eyed grass (Xyris difformis), Bog Buttons (Eriocaulon septangulare), White Beak-sedge (Rhynchospora alba), and Redroot (Lachnanthes caroliana), another listed plant species which happens to reach its northern range limit at the same location as Subulate Bladderwort.

Population Status: Subulate Bladderwort is listed as a species of Special Concern in Massachusetts. It is also listed in Indiana, Michigan, New York, Rhode Island, and Nova Scotia. Extensive populations of Subulate Bladderwort occur at several Massachusetts sites and in 3 of the 10 currently known stations it is protected. Historically (proir to 1978) it was more prevalent, documented from 21 sites in the state. But through recent development and recreational use of many of the region's coastal ponds, this species' habitat has significantly decreased.